DOCUMENT RESUME

ED 200 338 PS 012 118

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TITLE Stability and Change in Teacher-Pupil Directive Interactions.
PUB DATE Apr 81
NOTE 37p.; Paper presented at the Annual Meeting of the American Educational Research Association (Los Angeles, CA, April 13-17, 1981).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Classroom Observation Techniques; Communication Research; *Kindergarten Children; Longitudinal Studies; *Preschool Teachers; Primary Education; *Student Reaction; *Student Teacher Relationship; *Teacher Behavior; *Verbal Communication
IDENTIFIERS *Directive Speech

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STABILITY AND CHANGE IN TEACHER-PUPIL DIRECTIVE INTERACTIONS

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Paper presented at the Annual Meeting of the American Educational Research Association, Los Angeles, California. April 13-17, 1981.

Stability and Change in Teacher-Pupil Directive Interactions

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ABSTRACT

A longitudinal investigation of teacher-pupil directive interactions in kindergartens was designed to study stability, change, and structures underlying classroom directive exchanges. Three kindergarten classes were observed at four times of the school year. Teacher directives were classified as to type and clarity, while concomitants of 748 teacher directives were analyzed. Results revealed stable patterns of directive interactions within which gradual changes occurred over time. Teachers became more indirect while children's responses became more appropriate. Apparently kindergarten teachers provide stability, predictability and redundancy in directives while moving children toward the "normal forms" of directive exchange in school and society.

Introduction

The role of directives in classroom interactions. Prior to the present investigation teacher directives had been recognized as important classroom linguistic variables by several authors (e.g., Gump, 1969; Sinclair & Coulthard, 1975). Their role was generally thought to be mainly procedural with their principal function being the maintenance of classroom structural boundaries. Since the initiation of this study there has been increasing interest in teacher directives (i.e., Bruck, 1978; Mehan, 1979). Yet even these recent treatments see directives as teacher devices to control student behavior, to organize classroom activities, and as procedural interjections within the more encompassing flow of classroom lessons. More recently classroom ethnographers such as Wallat & Green (1979) have begun to suggest that teacher directives serve important linguistic, social and cognitive functions.

However, none of these studies has examined or described the different types of directives used by teachers, their varying clarity levels, specific child responses or subsequent teacher reactions. The classroom directive has been seen as a unitary construct, although evidence from numerous other settings (e.g., Ervin-Tripp, 1976; Mitchell-Kernan & Kernan, 1977; Bellinger, 1979) has established that directives are complex utterances, varying as a function of many social and contextual constraints.

One objective of this observational study was to describe teacher-pupil directive interactions systematically. Kindergarten classrooms were selected because it was assumed that the developmental process involved in teacher-pupil directive pattern construction could be best observed in a setting where both teacher and student have little prior knowledge of each other. The grade level selected, moreover, should go beyond those years

when children are presumed to have so many language processing difficulties that the limits of directives comprehension per se might be suppressed.

By necessity a full description of the development of directives interaction patterns in kindergartens, one that would establish that teacher directives and child responses vary according to contextual changes, could best be accomplished by means of longitudinal, observational research. Kindergarten teachers and pupils should be observed as they learn to adapt to each other over time.

A second objective of this study was to illuminate expected evidence for both stability and change in these naturalistic observations. It was assumed that teacher directives are more than procedural or organizing phenomena. Teacher directives are also a major vehicle for teaching and learning. Through repetitive and stable directive interaction patterns teachers impart, and children acquire, at least two kinds of important classroom knowledge: how to behave in school and how language is used in school to convey intentions. It is just such functions of directive interactions which have been imputed to parent-child exchanges in the home setting (Brown, 1977; Holzman, 1972; Shatz, 1979). Apparently similar possible functions for teacher directives have not been previously postulated.

Similarly, through adaptation and change both teachers and pupils learn to act as effective participants in their mutual exchanges, with directives being a principal source of that learning. Within a theory of dyadic interaction (cf. Bell, 1977, 1979) teacher directives provide numerous opportunities for children to act within implicit limits of teacher expectations. Child response repertoires broaden and change to come into gradual harmony with teacher expectations. These very changes in children's behavior stimulate additional changes in the limits of

teacher expectations (Bell, 1977) which are reflected in further variation in teacher directives. The process reveals a complex and subtle development of reciprocal influences between teacher and child, similar to that being postulated for parent-child interactions (Bloom et al., 1976; Bruner, 1975).

It is the position of the present investigation that previous, and even current, treatments of teacher directives have been too narrow in their definitions and too simplistic in their conceptualizations. They have neglected to describe classroom directive interactions fully and have thus failed to account for the complex influences of the variables involved. The present study was designed to extend the existing knowledge about teacher-pupil directive interactions in order to more fully illuminate what is believed to be an important concomitant of school learning.

The investigation was in the form of an observational-longitudinal study in which appropriate categorical and ordinal variables were observed, classified, recorded and factor analyzed in order to uncover the pattern of relationships among them. It was hypothesized that such patterns would be relatively stable, providing evidence that kindergarten teachers and pupils construct predictable, and accommodating modes of directive interactions.

Another focus of the study concerned changes in pupil and teacher directive interactions over time. Teachers were expected to become more indirect from the beginning of the school year to the end, as child responses became more appropriate.

Variables Investigated

Five qualitative variables and one ordinal variable were

classified by means of observations taken on two instruments, a tally form and a response form. Type of addressee refers to the size of the group or the sex of the individual being addressed by the teacher. The variable included four categories: large group (more than half the class), small group (less than half the class), boy(s), and girl(s). Similar features of the context have been shown by Ervin-Tripp (1976) and her associates to constrain directive interchanges. Type of activity refers to those classroom activities which were underway when the target directive was uttered, and included unstructured activities (i.e., playtime, snacktime), art, music (both considered to be semi-structured activities with some free choice for the children), and structured lessons.

Directive types were adapted from Ervin-Tripp's (1976) category system (see Appendix) and included four of her types: Imperatives, Imbedded Imperatives. Question Directives, and Hints, and an additional category, Academic Questions which was added when such directives were found to be frequent during previous investigations.

There were four child responses coded: appropriate responses, asks (child asks teacher or other child what has been requested), tries (child attempts a response but seeks feedback about the appropriateness of her/his attempt) and inappropriate responses. Inappropriate responses included those occasions when the child did not comply, as well as actual inappropriate responses to the directive. In the case of academic questions, the form of the response but not the content, was considered when judging the appropriateness of a response.

Directive clarity constituted an ordinal variable for this study. Clear directives (given a rating of "3" on the ordinal scale) were those which included a specific agent and the action to be performed; middle

clarity directives were those which inlcuded either an agent or action but not both; unclear directives were those which included neither agent nor action.

Six teacher reaction categories completed the 24 variable system. No reaction was recorded when there was no obvious teacher reaction to the child response within the five-minute event sampling period. The other categories were: repeats directive, rephrases directive, physical follow-up to the directive, answers child, and approves child response.

Method

Subjects. The population for this study was defined as kindergarten classes in an enlarged city school district in Southern New York State. All three kindergarten classes in one school were observed. The school was determined to be demographically representative of the school district. Two female teachers (designated Teacher 1 and Teacher 2) taught the three classes (designated Class A, Class B, and Class C). The classes contained 19, 19 and 26 pupils and were heterogeneously grouped as to race, social class and ability (as measured via pre-kindergarten screening tests). Class B contained twice as many female as male students.

Materials and Procedures. Two one-hour observations were conducted in each of the classes during September, December, March and June employing two observation instruments, a tally form and a response form. Trained observers conducted the observations simultaneously in each class, one observer focusing on the tally form for 30 minutes then switching to the response form; the second observer reversing the procedure.

For the tally form the observer made an on-the-spot decision as to the type of the directive uttered and its clarity level. A tally mark was made in the appropriate cell (see Appendix), with the objective of classifying every teacher directive uttered during the one-hour period.

The response form was coded via an event-sampling procedure as discussed by Medinnus (1976). Within a five-minute time limit an observer recorded the first occurring directive verbatim. The type of addressee and type of activity were then classified followed by the type of child response and the type of teacher reaction (see Appendix). Later in the day at least three members of the research team (the author plus two of the four paid research assistants) would discuss each directive and judge its type and clarity level. Agreement was obtained through consensus. In addition to the verbatim, hand-recorded directive, audio tape recordings were made of every observation. Contextual and physical properties of the setting were noted including teacher gaze, gestures and the like. The corpus yielded complete protocols of 748 teacher-pupil directive exchanges, response form classifications and tallies of virtually all teacher directives coded according to type and clarity level.

Observers were trained following a procedure outlined in Frick and

Semmel (1978) using specimen videotapes of isolated, unambiguous examples of behavioral categories. Two in-class practice observations were also conducted. Interobserver agreement was computed a total of twelve times during the course of the study utilizing a two-stage method. First a correlation coefficient was computed between the proportions of entries in all categories coded by Observer #1 and Observer #2. Then the differences between each pair of proportions was computed. Increasing correlations and decreasing differences in proportions were taken as evidence for increasing agreement. Over all mean differences for directives types were 7%, with correlations averaging .61; while mean differences for directive clarity were 13% with correlations of .87. A decrease in observer reliability prior to the March observations necessitated re-training, after which agreement returned to original levels.

Response form agreement averaged .64 over twelve observations, while reliability of the two instruments was as follows: Tally Form - .68; Response Form - .67.

Data Analysis. Four methods were employed in order to answer the following questions: a) What are the types and clarity levels of kindergarten teachers' directives? b) What are their numbers? c) What are their interactive concomitants? d) What are the relationships among these variables and is there evidence of stability in these relationships? e) What are the changes, if any, in teacher-pupil directive exchanges over time?

First, selected protocols were examined for narrative evidence of both stability and change. Second, summary statistics were examined and tested, where appropriate, in order to systematically describe directive interactions in these classrooms. Third, a relatively new methodology was adapted in order to explore the structural relationships underlying these categorical variables. This method involves transformation of the qualitative data into a binary system which is then factor analyzed (Pruzek, Lehrer & Kim, 1979). The method is analogous to a multivariate chi-square analysis. Finally, an analysis of trend was performed on the proportion of indirect teacher directives at each time, and the proportion of inappropriate child responses. The analysis employed linear and quadratic polynomials as dummy variables against which the obtained proportions were regressed. F tests were performed on the resulting regression coefficients with alpha set at .05 for a starting value. An increasing trend was tested for teacher indirectness; a decreasing trend for children's inappropriate responses.

Results

Type of addressee. At the beginning of the school year directives to large groups outnumber other categories of addressee (Table 1), but as the year passes the proportion of directives to inidviduals has risen to the majority position. Thus kindergarten teachers have a tendency to address directives to ever decreasing numbers of students as the school year progresses. This tendency may relate to changes in classroom organization and activities and to the development of a good deal of "shared inter-

Table 1 -- proportions of entries in each category at four observation times (Response form data).

Variable Names Category	September	December	March	June
Type of Addressee				
Large group	.423	.414	.267	.289
Small group	.072	.140	.267	.182
Boy (s)	.261	.183	.285	.32[illegible]
Girl (s)	.243	.263	.181	.26[illegible]
Type of Activity				
Unstr. Activity	.203	.124	.183	.296
Art	.275	.075	.150	.219
Music	.131	.000	.000	.051
Structured Less.	.392	.801	.667	.433
Directive type				
Imperatives	.288	.263	.205	.307
Imbedded Imperatives	.243	.371	.370	.414
Question Directives	.059	.097	.091	.099
Hints	.131	.156	.152	.130
Academic Questions	.279	.113	.182	.051
Clarity Level*	2.599	2.699	2.636	2.641
Child Responses				
Appropriate	.797	.806	.758	.942
Asks	.018	.043	.036	.005
Tries	.045	.022	.073	.010
Inappropriate	.140	.129	.133	.043
Teacher Reaction				
No reaction	.532	.274	.376	.687
Repeats	.077	.145	.121	.071
Rephrases	.054	.070	.133	.045
Physical	.041	.075	.079	.073
Answers	.072	.086	.030	.010
Approves	.225	.349	.261	.114

*Clarity level is an ordinal variable. Figures given are means based on the following scale: 1=Unclear, 2=Middle clarity, 3=Clear.

subjectivity" between teachers and pupils regarding implicit group procedures. Evidence for this last speculation comes from changes in the absolute numbers of directives over time (Figure 1). Teachers use substantially fewer directives as the school year progresses. They may need fewer directives to accomplish their intentions.

Type of activity. Directives during structured lessons always outnumber directives during other types of activities. However, such utterances increase greatly during the two middle-of-the-year observations. There were very few directives during art and music but only because these classes usually go to special teachers for these activities. When the two categories are combined under the rubric of "semi-structured" activities, the pattern of proportions of directives during these events mirrors that for structured lessons. The pattern of means for unstructured activities remains stable over time.

Directive type. The proportions (from tally forms) of each directive type at four times of the school year are presented in Table 2. In September, Academic Questions and Imperatives, two relatively direct forms, are most numerous. By June, Academic Questions fall off considerably to be supplanted by Imbedded Imperatives, a relatively less direct directive type.

Clarity level. As seen in Figure 2, kindergarten teachers tend to produce directives that are quite clear; however there is a small but significant decrease in clarity, particularly from December to June. There is a corresponding increase in middle clarity directives. Totally unclear directives, those specifying neither the agent nor the action, never constitute an important class of kindergarten teacher directives.

Child responses. At all times appropriate responses far outnumber all other response types. Of the 748 child responses to the coded

Figure 1 - Absolute numbers of teacher directives recorded during one-hour observations at four times of the school year.

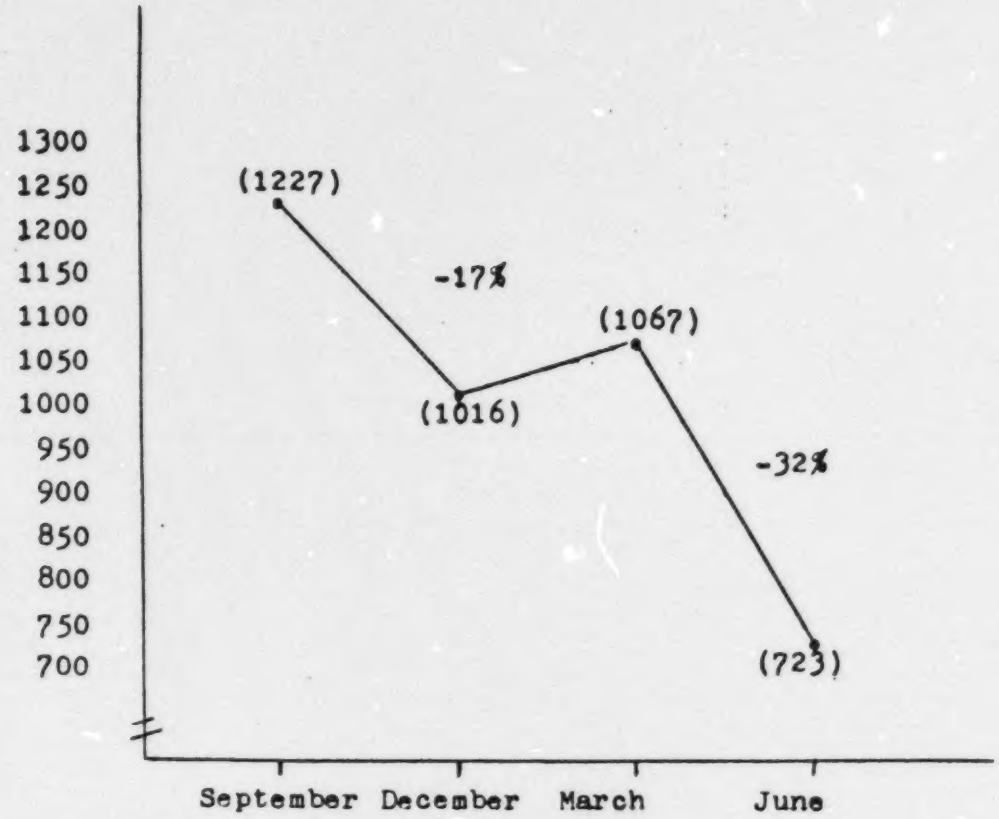


Table 2 - Proportions of each directive type at four observation times,

Times	Academic Questions	Imperatives	Imbedded Imperatives	Question Directives	Hints
Sept.	.301 (369)*	.296 (363)	.192 (236)	.073 (89)	.138 (169)
Dec.	.154 (156)	.285 (290)	.255 (259)	.097 (99)	.209 (212)
March	.231 (247)	.247 (264)	.255 (272)	.073 (78)	.193 (206)
June	.038 (28)	.284 (208)	.429 (314)	.105 (77)	.143 (105)

*Figure in parentheses is absolute number of directives recorded at each observation time (tally forms).

Figure 2 - Comparison of mean proportions of directive clarity levels at four observation times. (Tally forms)

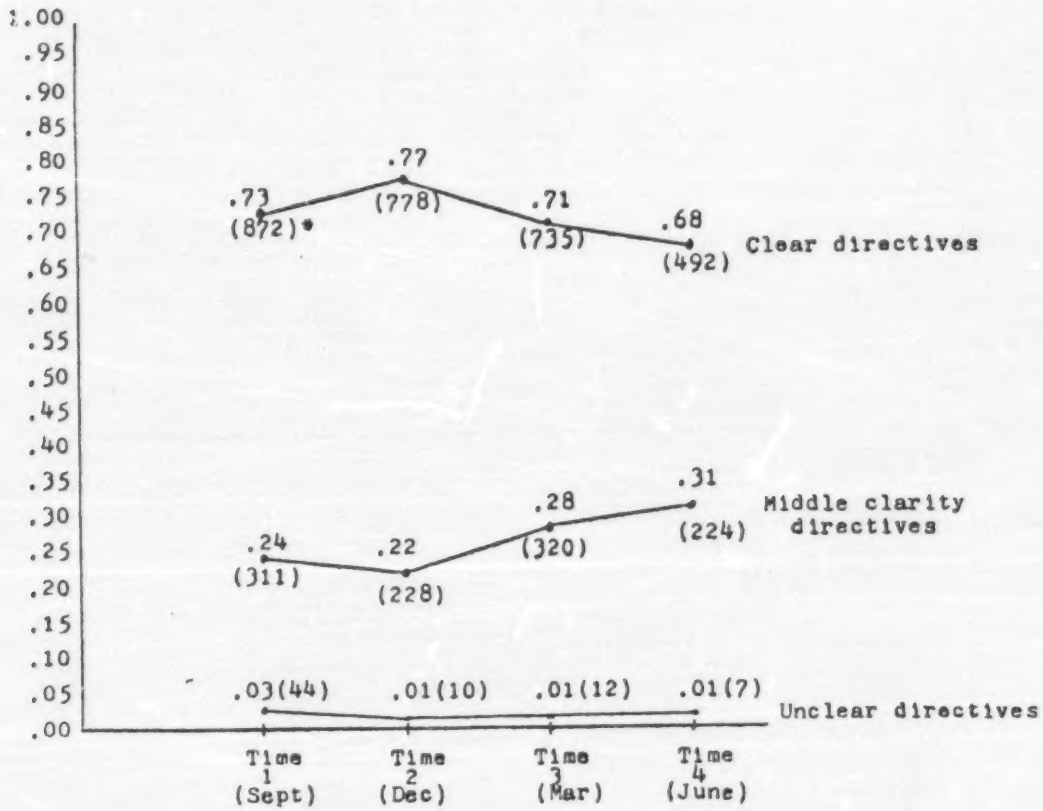


*Figure in parentheses is absolute number recorded at each observation time.

directives, 622 (83%) were judged appropriate, 45 (6%) were judged to be clarification responses (child asks teacher or other child what is being requested; child tries to respond, then seeks verbal or visual feedback); and 81 (11%) were judged to be inappropriate. Mean proportions of appropriate responses are fairly stable at three observation times then rise dramatically in June. Inappropriate responses are seen to decrease from 14% to 13% to 8% over time even as teacher directives are becoming more indirect.

Teacher reaction. For teacher reaction categories the strong tendency for the two mean proportions for September and June to be similar to each other and different from the mid-year means produces a significant quadratic trend ($F_{1,16}=4.95$, $p<.05$). Teachers generally make no reaction at all to child responses or approve them. The original response form included a Teacher Disapproves category but there was never one instance of disapproval without some other accompanying teacher reaction. That is teachers disapproved then physically redirected the youngster, or they disapproved then repeated the directive.

Teacher directness vs. child responses. The two expected trends were found as predicted and both trends were essentially linear and quadratic, with most noticeable changes occurring between December, March and June. The nature of the increase in teacher indirect directives was not as expected, a finding which bears some elaboration.

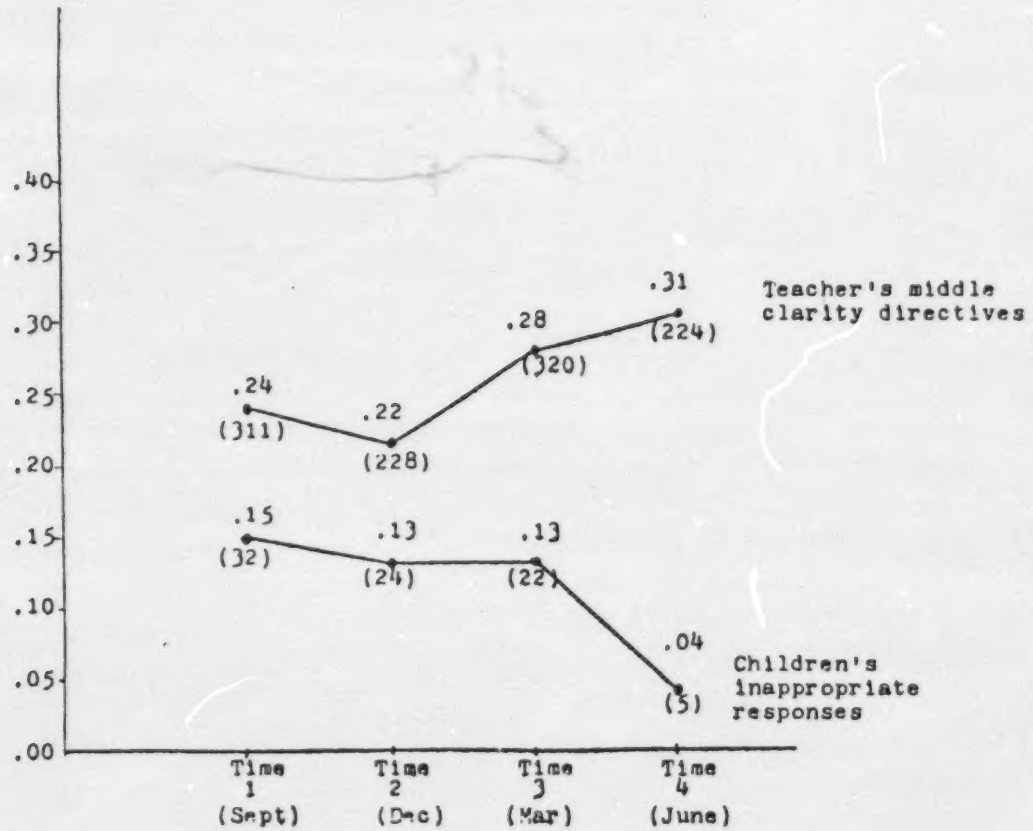
It was originally believed that changes in teacher directive clarity would be evident in the increasing use of unclear directives. Instead truly unclear directives were found to be very infrequent; while indirectness was found to increase in two alternate ways: First there was an incremental trend in the use of middle clarity directives over time. Second, the distribution of directive types changed with proportions of

academic questions (relatively direct) replaced by increasing proportions of imbedded imperatives (more polite, subtle, less direct). The relationship between the increment in teachers' middle clarity directives and the decrement in children's inappropriate responding may be seen in Figure 3. While the decreases appear quite small in proportional terms, each data point represents 200 or more directive exchanges. The two curves appear to be complementary for these aggregated data, and both trends were significant at the .01 level or less. Close correspondances between teacher directness and children's appropriate responses are even more evident when considered on an individual class basis (Figure 4).

Factor analysis. As expected a small number of latent factors accounted for a substantial proportion of variance among teacher directives, child responses and teacher reactions. In addition, certain pairs of variables were seen to load frequently on similar factors with similar signs and magnitudes. This finding is consistent with the hypothesis that stable structural relations underlie kindergarten directive interactions.

Tables 3, 4 and 5 present examples of four-factor matrices for data that were aggregated from the 24 observations in all three classes. Initiating factors have large magnitude loadings for those variables which influence the initiation of a teacher directive: who is being addressed, what activity is underway, and what directive types the teacher selects to convey her intentions. Response factors have large loadings for child responses and teacher reactions, suggesting that, at times, these responses are independent of the initiating factors. Interactive factors, typically idiosyncratic from class to class, have large loadings for initiating and response variables which relate to each other through the level of clarity

Figure 3 - Comparison of teacher directive clarity and children's inappropriate responding at four observation times.*



*There is a discrepancy between the absolute numbers of teacher directives (figure in parentheses) and the absolute numbers of child responses. This occurs because teacher directive data were obtained from tally forms while child response data were obtained from response forms.

Figure 4 - Comparison of mean proportions of teachers' explicit directives and mean proportions of appropriate responses in each class at each observation time.

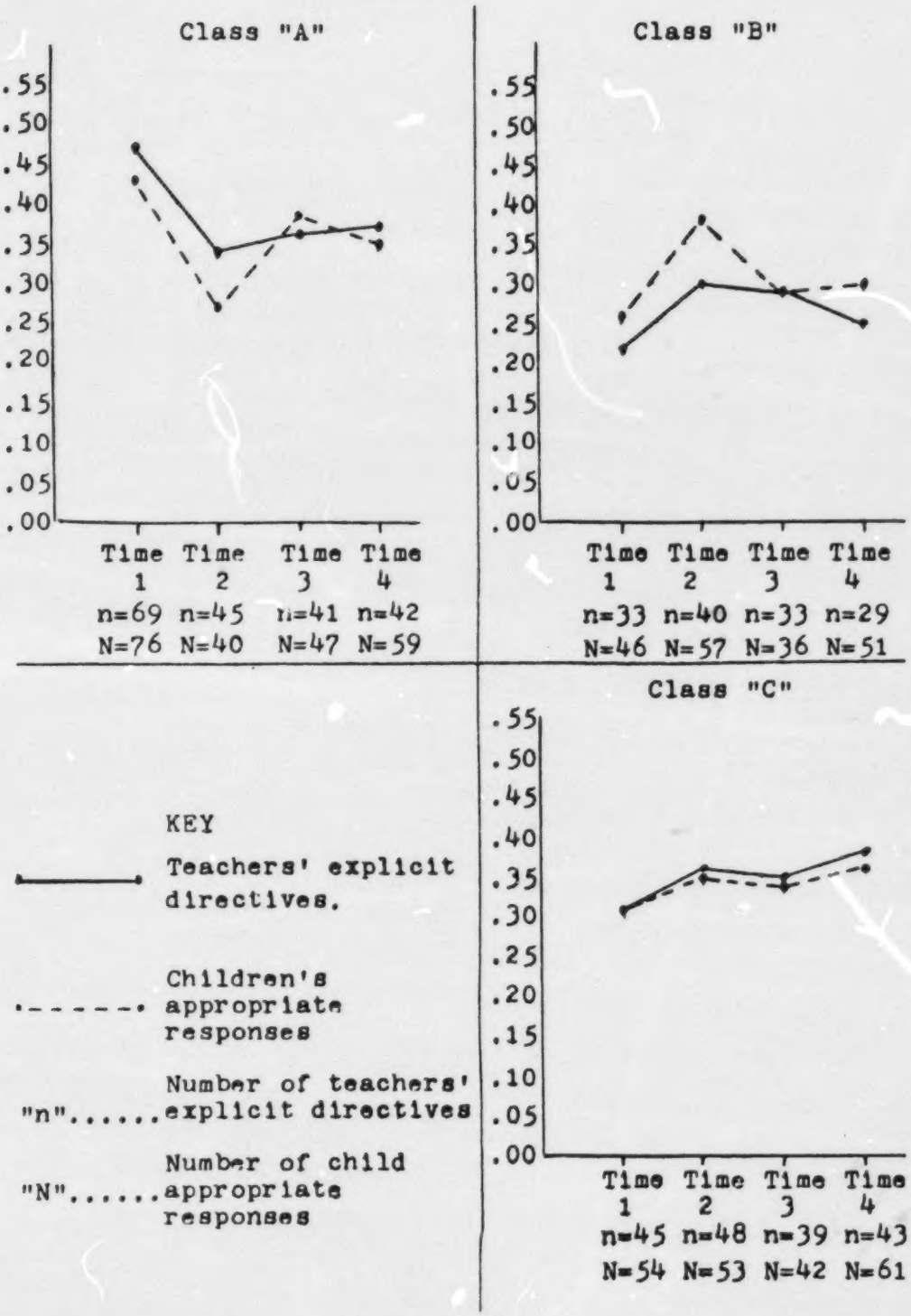


Table 3 --
Comparison of "Initiating" factors for aggregated data at four observation times.

Variable Name / Category	September		December	March		June	
Type of Addressee	I	II	I	I	II	I	II
Large group	-.382*	-.315*	.667*	.006	.496*	-.165	-.366*
Small group	-	-	-	.532*	-.232*	-	-
Boy (s)	.528*	.036	-.238*	-.528*	-.153	-.313*	.427*
Girl (s)	-.085	.423*	-.472*	-	-	.507*	-.058
Type of Activity							
Unstr. Activity	.404*	-.278*	.089	.376*	.208*	-.386*	.125
Art	.361*	.266*	-.249*	-.053	.532*	.425*	.069
Music	-	-	-	-	-	-	-
Structured Less.	-.631*	.047	.092	-.267*	-.574*	-.057	-.134
Directive Type							
Imperative	.002	.263*	-.099	-.242*	.271*	.387*	.377*
Imbedded Imperative	.393*	-.058	.483*	.432*	-.081	-.389*	-.369*
Question Directive	-	-	-	-	-	.046	.251*
Hint	-.014	-.593*	-.408*	-.129	-.027	.022	-.180
Academic Question	-.348*	.202*	-.043	-.112	-.094	-	-
Clarity Level	.066	.528*	.324*	-.080	.035	-.087	-.037
Child Response							
Appropriate	-.105	.073	.194	.021	-.136	-.126	-.059
Asks	-	-	-.037	-	-	.167	.018
Tries	.336*	-.072	-	-.243	-.088	-	-
Inappropriate	-.086	-.066	-.159	.081	.212*	.038	.042
Teacher Reaction							
No reaction	.006	-.133	.008	.306*	-.000	.084	-.332*
Repeats	.123	-.021	.333*	-.088	.306*	-.063	-.008
Rephrases	-.093	-.020	-	.143	-.016	.101	.072
Physical	-	-	-.296*	-.194	-.072	-.030	.393*
Answers	-.137	.187	-.092	-	-	-	-
Approves	.052	.092	.009	-.247*	-.164	-.108	.122

* Loadings greater than + or - .200

Table 4 - "Response" factors for aggregated data at four observation times.

Variable Name Category	September	December	March	June
Type of Addressee				
Large group	-.098	.000	.006	.067
Small group	-	-	-.168	-
Boy (s)	.082	-.100	.120	-.118
Girl (s)	.041	.062	-	-.089
Type of Activity				
Unstr. Activity	.169	-.088	-.018	.030
Art	-.149	-.062	-.037	.173
Music	-	-	-	-
Structured Less.	.057	.114	.043	-.146
Directive Type				
Imperative	.035	.046	.063	-.081
Imbedded Imperative	-.144	.081	.202*	-.195
Question Directive	-	-	-	.036
Hint	.049	-.157	-.072	.304*
Academic Question	-.027	.007	-.042	-
Clarity Level	-.197	.251*	.378*	-.338*
Child Response				
Appropriate	-.804*	.736*	.725*	-.617*
Asks	-	-.305*	-	.189
Tries	.205*	-	-.416*	-
Inappropriate	.762*	-.651*	-.529*	.682*
Teacher Reaction				
No reaction	-.452*	.121	.428*	-.460*
Repeats	.501*	-.423*	-.215*	.515*
Rephrases	.484*	-	-.518*	.169
Physical	-	-.189	-.136	.052
Answers	.139	-.137	-	-
Approves	-.147	.476*	.208*	.007

* Loadings greater than + or - .200

Table 5 --

Comparison of "Interactive" factors for aggregated data at four observation times.

Variable Name / Category	September	December I	December II	March	June
Type of Addressee					
Large group	.060	.097	.039	.087	.262*
Small group	-	-	-	.081	-
Boy (s)	-.032	-.204*	-.432*	-.056	-.121
Girls	.027	.177	.302*	-	.029
Type of Activity					
Unstr. Activity	.111	-.593*	-.069	-.194	-.501*
Art	-.224*	-.294*	-.157	-.092	-.143
Music	-	-	-	-	-
Structured Less.	.165	.684*	.161	.229*	.603*
Directive Type					
Imperative	-.519*	-.078	.589*	-.062	-.072
Imbedded Imperative	.028	-.125	-.286*	-.134	-.020
Question Directive	-	-	-	-	.064
Hint	-.076	-.048	-.189	-.375*	-.125
Academic Question	.541*	.390*	-.192	.594*	-
Clarity Level	-.062	.098	-.079	.198	.261*
Child Response					
Appropriate	-.109	-.033	.079	.132	.054
Asks	-	-.122	.139	-	-.012
Tries	.271*	-	-	-.179	-
Inappropriate	-.043	.109	-.160	.007	-.036
Teacher Reaction					
No reaction	-.595*	-.500*	-.022	-.467*	-.424*
Repeats	.030	.049	-.045	.122	-.013
Rephrases	-.053	-	-	.079	.064
Physical	-	.156	.141	-.263*	-.024
Answers	.139	.007	.413*	-	-
Approves	.640*	.371*	-.218*	.525*	.588*

* Loadings greater than + or - .200

chosen by the teacher.

In order to examine the relationships among factor loadings more carefully, pairwise contingency matrices were prepared such that frequent pairs could be graphically highlighted. These matrices revealed the following consistent patterns: High directive clarity is usually associated with large group structured lessons. These directives tend to be polite, subtle, but relatively direct Imbedded Imperatives. They are usually followed by appropriate responses which are then followed by teacher approval. Low clarity directives tend to occur with small groups during semi-structured activities such as art and music. These directives will often be Hints. They are generally followed by inappropriate responses or a form of clarification response to which teachers react by repeating the directive, rephrasing it or physically re-directing. Numerous other stable patterns were uncovered with factor analysis but these consistencies still only accounted for between 40% and 75% of the possible pairwise loadings. Apparently a good deal of individual variation exists within teachers, classes and observation times. Evidence for such individual variation was presented in an earlier paper (Shapiro, 1979). These individual differences were found to grow more pronounced as the school year progressed and individual teachers and pupils moved from a general pattern of interaction towards more unique patterns constructed as a function of class group dynamics.

Protocols. Both stability and change are evident in protocols of similar directive exchanges in one class at four times of the school year (see Appendix). There is a high degree of regularity in the way the teacher uses directives to organize classroom work groups. The content and form of the directives vary little throughout the year. There is

always the pause for child response followed by the directive to the next group. The directive is always uttered at the end of a certain type of activity. The physical setting and timing of the directive are identical at all four times. Once these structures are learned the children have a high probability of making the appropriate response.

In each example there is also evidence that the teacher moves away from the stable pattern while remaining within it. The directives become less clear. The nonverbal context becomes less supportive and pragmatic features drop out. Teachers stop reacting physically to child responses. There is also very telling evidence that teachers flexibly return to more informative directives set in more supportive nonverbal contexts when a small group of naive students visits the class.

Discussion

The evidence presented here supports the hypothesis that there are stable patterns of relationships among the directive interaction variables studied. One factor underlying these exchanges involved associations among variables surrounding the initiation of a teacher directive. Certain classroom activities, type of addressee and directive types appear to occur together frequently enough to conclude that the association is stable and predictable and this factor appears to be unrelated to other aspects of the interaction. Likewise directive clarity, child response type and teacher reactions also form an underlying response variable which remains consistent over time and from class to class. Even an individual difference factor appears to be fairly stable over time.

What could be the purpose, in kindergarten classes, of such stable factors? One plausible explanation comes from the parent-child interaction literature where it has been found that effective parents provide stability

of routines, consistency of expectation and redundancy of language to very young children (Sroufe & Waters, 1977). Shatz (1979) recently found that mothers are interested as much in maintaining appropriate responses as in teaching language lessons. Their questioning techniques give evidence of a good deal of predictability and stability. The content of the child's response is of less importance than the fact and form of the child's responding. Mehan (1979) also found that teachers emphasize the form as well as the content of child responses, even in the context of academic lessons where it might be expected that content should be more important than form.

The predictability of events and linguistic forms in classrooms enable children to interpret events and to assimilate slightly discrepant occurrences to their growing conceptions of classroom limits. For the youngest pupils such predictability would be most useful as they begin acquiring a repertoire of classroom responses near the beginning of the school year. As the year progresses it becomes possible for both teacher and pupil to digress from established patterns.

Additional evidence from this study suggests that change is as much a part of teacher-pupil directive interaction as is stability. Change is evident in a number of ways. As the year progresses, less and less of the variation in the interactive patterns can be explained by the same underlying factors. Factor loading patterns are not as consistent at the end of the school year and the amount of variance accounted for drops off. Teachers use fewer directives by June than they did in September. Their directives are less clear and less direct. They are more polite and more subtle. Meanwhile child responses are becoming more appropriate over time, and for a time clarification behaviors are more common, until it appears that they may no longer be needed.

Both Ervin-Tripp (1976, 1977) and Grice (1967) and his followers offer possible explanations for some of the manifest changes in teacher directives over time. Ervin-Tripp (1976) argues that social norms dictate the form of a speaker's directives. Those of superior rank generally do not use direct commands, for example, to those beneath them except in emergencies or except in the case of parents speaking emphatically to children. Grice (1967) and others postulate principles of cooperative conversation such as "be clear", "be polite", "be reasonable in your requests", and the like. It appears then that in everyday life speakers generally adhere to the "normal forms" of directive speech (Cicourel, 1973). Kindergarten teachers may be guided in their selection of directives by something like the following implicit heuristic: Start the year by being direct and explicit. This approach will be similar to that used by parents in an emphatic situation and will thus be more easily assimilated by naive students. Go towards the "normal forms" of directive use in our society as quickly as possible by incorporating the rules of cooperative conversation. However, do not sacrifice communication. If children make more inappropriate responses than you have reason to expect, back up and become more explicit and direct once again. Continue to work towards as much cooperative conversation as children's responses warrant.

Protocols from these observations (see Appendix) provide evidence for both stability and change in kindergarten directive interactions. Most contextual features of similar exchanges remain stable, while internal features which teachers include in their directives become more opaque. Nevertheless children become more adept at discerning teacher intentions. It is evident that kindergarten teachers, consciously or implicitly are considering the need to provide redundancy (in the form of numerous directives), clear parameters, and few response options at the beginning

of the school year when children are presumably most naive about school; whereas by June, directive clarity levels and types more nearly approximate those found in society. Furthermore, teachers must utter fewer directives to achieve the same objectives.

Because of the contextual support surrounding teacher directive utterances, child responses are always more appropriate than inappropriate. Teachers seem sensitive to and anticipate those instances when support must be increased again. If they do not provide necessary cues, child responses signal a breakdown in communication.. Evidence from this, and an earlier paper, suggests that these reciprocities are somewhat idiosyncratic from class to class. Each newly entering kindergarten class and its teacher constructs modes of mutual accommodation, with directive exchanges as complex vehicles which convey intersubjective messages of intentions between them.

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Appendix

Sample directive exchange protocols from Class C at four observation times

All of these exchanges occurred when the teacher was organizing readiness work groups. In the first exchange excerpted from September tape recordings, the teacher is about to have the children do some simple paper work related to a story she had read and discussed with the children.

(1) Children are seated on the floor in a clear gathering place usually used for discussions. The teacher sits on a counter top facing them. At the conclusion of the discussion she gets off the counter and walks slowly toward a group of tables and chairs on the other side of the room, as she does so she begins the following:

T: I would like everyone to come over and sit at the tables. (Children stand up and begin milling around. Some walk toward the tables, some just stand. There is general mumuring and talking among the children.)
T: Quietly! (More movement, talking and sitting in chairs.)
T: Sonny, Sonny, can you come over here and sit, please? (Sonny sits where indicated.)
T: Christine, can you go sit at the round table? (Points to table. Christine sits.)
T: Christopher, why don't you sit at this table? (Touches Christopher's shoulder. Points. Christopher sits.)

In the above example the teacher begins by being generally direct in specifying the general action to be taken by the children. She reinforces her verbal commands by orienting her body toward that part of the room in which she wants the children to settle. She uses a group pronoun "everyone," which is not yet well understood by several children as indicating themselves. She fails to specify the particular tables for each particular child, however, about half the class responds appropriately. She then becomes clearer in her requests by specifying children by name, pointing to the proper table, and physically

directing as well. She also becomes more indirect using question directives rather than the imbedded imperative with which she started. Both children and teacher totally ignore her imperative "quietly." At this point it may be more important to the teacher to get the children seated than to have quiet. The noise level is not unusually high, and can apparently be tolerated.

Now it is December. The children have been organized into regular work groups for about six weeks. Teacher assistants, volunteers and student teachers work with some of the groups while the teacher works with others. There are two work areas. One is upstairs in the main classroom. The other is on a lower level, down two steps, in an area which is also used for large muscle equipment during playtime. In this exchange, the teacher has just finished conducting opening activities such as attendance, pledge, weather discussion. She is about to start directing children to their respective work groups.

(2) Children are seated on the rug as for discussion. Teacher is seated on the counter. Miss Saunders, a volunteer, is standing near the steps that lead to the lower level. Teacher gets off the counter and begins to walk toward the middle of the room.

T: If you work downstairs would you please line up at the top and Miss Saunders is going to work with the downstairs people today. (There is a long pause. Teacher touches a few children aiming them toward Miss Saunders at the top of the stairs. When the group is ready Miss Saunders begins leading them downstairs.)

T: The rest of the people I'd like you to sit someplace on the blue circle. (Teacher walks toward remaining children on upper level who begin moving about finding places on the blue circle. All children sit or kneel on the blue circle.)

In example two no individual child is named. Children are expected to know who the "downstairs people" are. And in general they do. The teacher assists by gently directing physically a few children in the group. Miss Saunders helps with the action by standing at the top of the stairs facing the children and looking expectant. The

teacher says "line up at the top," but not at the top of what. However, the top of the stairs is the only plausible "top" in the room and past practice will have reinforced the line-up procedure for work time. The teacher waits for the first group to start on their way down the stairs before addressing the small group left on the rug. The remaining children apparently realize they are "the rest of the people." There is general appropriate responding.

Example three takes place in March. Once again the exchange takes place following opening activities and involves getting organized for small group readiness work. The teacher assistant, Mrs. Brady, is standing in the room waiting for the lessons to start. It is she who will work with the children on the lower level.

(3) Children are seated in a group on the rug. The teacher walks toward Mrs. Brady and begins talking to her in a low voice about the day's lessons. During a pause in the conversation, the teacher turns her head to the group of children.

T: If you go downstairs for math you may get in line. (There is a short pause while some children get up from the rug and begin lining up at the top of the stairs laughing and talking. Other children are standing by this time talking to their friends and milling about.)

T: And people who are upstairs we're going to sit in a half circle . . . in a semi-circle. (Mrs. Brady begins to walk downstairs in the middle of the group of "downstairs" children. Other children and the teacher are finding places on the blue circle.)

Example three seems to reveal a great deal of shared intersubjectivity among teachers and children, which has developed over repeated experiences with similar directive exchanges and classroom organization patterns which have existed for several months. The children line up at the top of the stairs although there are at least three lining up routines which have been established. The children seem to know that the work group procedure is operating in this situation. Neither the teacher nor the teacher assistant give much assistance to the

children in appropriately responding. There is an implicit assumption that everyone knows what to do in a situation which has been repeated daily. The blue circle is not mentioned but the upper level children move toward it anyway. The children do form a semi-circle in their seating arrangement, indicating that even that seemingly sophisticed concept is now in their repertoires. The teacher pauses only briefly between directives to the two groups. There is some noise and movement while she is talking, which apparently presents no problem.

In June it is the policy of the school to invite new kindergarten registrants for the Fall to visit the present classes for one class period. These visits are staggered so that there are usually no more than five visitors at a time. Exchange four takes place when five visitors are present. It is time to organize for work groups as is usual. The teacher has decided that the whole class will work downstairs with Mrs. Brady while she conducts a simple activity for the visitors upstairs. The procedure had been ongoing for several days at the time of this exchange, so that the regular class members were now accustomed to working somewhat differently than usual.

(4) All children are seated on the rug. The teacher is standing after having completed opening activities. She and Mrs. Brady are discussing the day's work. She pauses and turns her head slightly toward the children.

T: If you work downstairs would you go and walk in line. (The children start to get up. Some walk to the top of the stairs. Others mill about talking and laughing. The five visitors stay seated on the rug looking around. The teacher and Mrs. Brady continue discussing plans for the day. They separate. Mrs. Brady turns and walks toward the stairs with some of the children. The teacher turns to the small group of visitors, none of whom have moved, and bends over them looking directly at them.)

T: If you're a visitor (long pause, looks directly at children) if you're a visitor (pause) like Adam and Patty and Christopher (points to each child named.

Pauses and begins to walk toward the work tables. The rest of the regular children have been talking and milling around.) I'd like you people to come back (pause) if you're a visitor, and come and sit right on the floor in front of this red chair. Can you do that? (Walks toward indicated area. Pats the floor. Touches the red chair. Five visitors get up, two hesitate looking around, walk toward indicated area and sit down. Teacher turns toward remaining children. Speaks very quickly, almost tossing the utterance over her shoulder while attempting to keep an eye on the visitors.)

T: OK, the rest of the people can get on the line in back of Mrs. Brady's people. (They comply.)

Here is clear evidence of the way in which the teacher differentiates between the sophisticated regular children, and the more naive visitors. Directives to regulars are spoken quickly, almost tossed over the shoulder. There is no eye contact, no physical assistance, no specification of individuals. The children who normally work upstairs are told to line up with another group. The purpose of this different line up procedure is not spelled out, nor is what will occur when the line up is completed. None of these ellided details appear to be necessary. There is complete and appropriate compliance from all regular children.

Directives to visitors are spoken slowly. Each word is clearly enunciated. The teacher looks right at each child, names three of them. Points to the area where she wants them to settle. Pats the red chair. Still there is some hesitation on the part of two of the children before complying. Perhaps these are the two who were not directly named, but were included in the group designation "visitors." Perhaps they were deciding whether they belong to the category labeled visitor. The exchange is similar in many ways to the September example. A mixture of imbedded imperatives and direct commands are used for the visitors. These are impeccably clear. A mixture of partly clear imbedded imperatives and hints are used for the regulars. Clearly, within one setting, the teacher actively selects directive types and clarity levels by taking into account the assumed comprehension abilities of the children.

DIRECTIVE TYPES

(Adapted from Ervin-Tripp, 1976, 1977, and revised for use in homes and schools.)

	Examples
Imperatives: Direct commands	Sit down! Do it now. Mary, give me the pencil.
Imbedded Imperatives: A command or request are explicitly mentioned in the utterance but the imperative is imbedded in several other grammatical forms and may often be accompanied by preposed or postposed "please." Modal verbs often appear in these forms.	Won't you sit down? Please do it now. Mary, would you mind giving me that pencil?
Question Directives: These sound like requests for information rather than requests for action.	Can you sit over there? Who can do this for me? Do you have an extra pencil, Mary?
Hints: These are most often declaratives which require inference.	Here's a seat. I'm waiting for this to get done. I need a pencil.*
Academic Questions: Requesting a specific piece of information in order to test the hearer's knowledge, not because the speaker needs the information.	Why did Goldilocks get into trouble? What do we call a baby cat? What's this? (pointing)

CLARITY LEVELS

(According to criteria suggested by Ervin-Tripp, 1977; Bruck, 1978; and others.)

Clear: Specifically mentions the agent who is expected to perform the action and the action to be performed; or clearly indicates these by gesture, glance, intonation, facial expression or well-established precedent.	Mary, would you mind giving me that pencil? Can you sit over there?
Middle Clarity: Either the agent or action is omitted and not replaced by precedent or paralinguistic features.	That door should be closed. Mary, is this your pencil?
Unclear: Neither the agent nor action is mentioned nor are they indicated by any other means of communication.	I'm waiting! I need a pencil. Whose boots are these?

DIRECTIVES STUDY TALLY FORM

Class: A B C D Week: 1 2 3 4 Hour: 1 2

Type	Clear	Middle	Unclear	Totals
Academic Question				
Imperative				
Imbedded Imperative				
Question Directive				
Hint				
Totals				

DIRECTIVES STUDY RESPONSE FORM

Class: A B C D Week: 1 2 3 4

Type of Activity: Hour: 1 2 Addressee:

- Lg. group ☐
- Sm. group ☐
- Boy(s) ☐
- Girl(s) ☐

Directive:

Type:

Imp.	Imb.Imp.	Que.Dir.	Hint	Ac.Que.
☐	☐	☐	☐	☐

Clarity Level:

Unclear	Middle	Clear
☐	☐	☐

Child Response:

Complies Immediate

Correct	☐
Incorrect	☐

Complies Delayed

Correct	☐
Incorrect	☐
Asks	☐
Tries Behavior/ Seeks Feedback	☐

Does not Comply

☐

Teacher Reaction:

No reaction	☐
Repeats	☐
Rephrases	☐
Physical	☐
Answers	☐
Approves	☐
Disapproves	☐

Rephrased Directive:

Contextual Features: